

## ABSTRACT

This study focused on the prevention of liquefaction susceptibility through chemical – soil stabilization using calcium oxide in Municipality of Rosario, Cavite. Since the municipality of Rosario is susceptible in liquefaction; potential liquefaction was identified through Seed and Idriss formula for factor of safety against liquefaction. Calcium oxide (CaO), also known as lime, was used in the study since it is proven that it has cementitious properties. Parameters such as unit weight of soil, effective stress, optimum moisture content, liquid limit and degree of saturation was evaluated by utilizing the soil tests reports of the five samples used: (a) untreated soil sample, (b) 5% CaO mixture soil sample, (c) 10% CaO mixture soil sample, (d) 15% CaO mixture soil sample and (e) 20% CaO mixture soil sample. Upon evaluation of results, the factor of safety against liquefaction of the untreated soil sample turned out to be vulnerable. In this case, chemical-soil stabilization was possible in the area. Among all the CaO mixture soil samples, 5% has the most appropriate factor of safety that can prevent liquefaction susceptibility in the municipality of Rosario.